ABSTRACT OF THE DISCLOSURE

An apparatus for detecting a pretilt angle is comprised of a light source 1, a polarizer 2, a liquid-crystal cell 3, a quarter-wave plate 4, an analyzer 5, a photodetector 6, and a processing device. The processing device receives from the photodetector transmitted light intensities of light that is transmitted through the liquid-crystal cell 3 at a plurality of light incident angles. The processing device calculates Stokes parameters corresponding to the plurality of light incident angles based upon the transmitted light intensity corresponding to the plurality of light incident angles. Furthermore, an apparent retardation corresponding to the plurality of light incident angles is determined based upon the Stokes parameters corresponding to the plurality of light incident angles. The pretilt angle of the liquid-crystal cell 3 is determined based upon the determined apparent retardation corresponding to the plurality of light incident angles.